

### **Remarks and Responses**

By Paragraph 1 of the Office Action, applicants hereby elect semiconductor device claims 1-26 for examination in this case.

Claims 15-26 have been allowed. Claims 36-45 are newly added. Claim 1 has been amended, and claim 6 has been cancelled without prejudice. As a result, claims 1-5 and 7-14 and 36-45 remain pending in the present application. Support for the amendments is found in the existing claims and specification and claims as filed. Accordingly, the amendments do not constitute the addition of new matter. Reconsideration of the application in view of the foregoing amendments and following comments is respectfully requested.

The specific changes to the amended claims are shown on a separate set of pages attached hereto and entitled **VERSION WITH MARKINGS TO SHOW CHANGES MADE**, which follows the signature page of this Amendment.

The allowable feature, as described by Paragraph 4 of the Office Action, of cancelled claim 6 has been added to amended claim 1. Accordingly, Applicant respectfully submits that independent claim 1 as amended is allowable over the art of record and respectfully requests the 35 U.S.C. § 103 (a) rejection of claim 1 to be reconsidered and withdrawn. In addition, insofar as claims 2-5 and 6-14 depend from independent claim 1. The 35 U.S.C. § 103(a) rejection of these claims should be withdrawn as well.

Reconsideration and withdrawal of this rejection is respectfully requested.

**For the newly added claim 36-45**

Claims 36-45 are newly added claims and only claim 36 is independent. Claim 36 includes the allowable features as described by Paragraph 4 of the Office Action. Accordingly, Applicant respectfully submits that independent claim 36 is allowable over the art of record. In addition, insofar as claims 37-45 depend from independent Claim 36 and add further limitations thereto, claims 37-45 also allowable.

All claims in the present application are now in condition for allowance. Early and favorable indication of allowance is courteously solicited.

Conclusion

For all of the above reasons, applicants submit that the specification and claims are now in proper form and define patentably over the prior art. Therefore applicants respectfully request issuance of this case at the Office's earliest convenience.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection

with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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## VERSION WITH MARKINGS TO SHOW CHANGES MADE

### IN THE TITLE

The title has been amended as follows:

STRUCTURE OF A DEEP TRENCH-TYPE DRAM AND METHOD  
FOR MAKING THE SAME

### IN THE CLAIMS:

Claim 1 is amended as follows:

1. (Amended) A Dynamic Random Access Memory (DRAM),  
comprising:

a plurality of strip-type active areas on a substrate;

a plurality of shallow trench isolation regions on the substrate for  
isolating each of the active areas;

a plurality of word lines above the active areas and the shallow  
trench isolation regions, an array being formed by overlapping the word lines  
and the active areas, the array including a plurality of first overlapping portions  
and a plurality of second overlapping portions, wherein every two of the first  
overlapping portions are separated by every two of the second overlapping  
portions on each of the active areas and each of the first overlapping portions  
is next to each of the second overlapping portions on every two neighboring  
active areas; and

a capacitor array in the active areas, each of the capacitors being in  
each of the first overlapping portions, the capacitor including a deep trench  
structure and a collar isolation, a first collar portion being on an adjacent  
portion of two of the neighboring capacitors, a second collar portion being on  
a non-adjacent portion of two of the neighboring capacitors, the first collar  
portion being longer than the second collar portion in a depth direction of the

deep trench and a depth of the second collar portion being the same as a depth of the top plate, wherein a memory cell is formed by the word line in one of the second overlapping portions and the capacitor in one of the first overlapping portions.

1. A memory cell comprising:  
a word line;  
a capacitor;  
a first overlapping portion;  
a second overlapping portion;  
a deep trench;  
a second collar portion;  
a top plate;  
a bottom plate;  
a first overlapping portion;  
a second overlapping portion;  
a deep trench;  
a second collar portion;  
a top plate;  
a bottom plate;